

AMENDMENTS TO THE CLAIMS

1. (Currently Amended): A liquid crystal display device, comprising:

a gate electrode on a substrate;

a gate insulating film on the substrate and over the gate electrode;

a semiconductor layer on the gate insulating film and over the gate electrode; wherein the semiconductor layer includes a “ \square ”-shaped channel;

a source electrode ~~two source electrodes~~ and a drain electrode on the semiconductor layer and adjacent the gate electrode, wherein the source electrode and the drain electrode oppose each other and each includes at least one protrusion that extends toward the opposing electrode, and the protrusion of the source electrode extends directly from a data line ~~the source electrodes are protruded separately from a data line;~~

a protective layer on the gate insulating film and over the source and drain electrodes;

and

a pixel electrode on the protective layer; wherein an entire area of the “ \square ”-shaped channel is formed over the gate electrode, ~~[[and]]~~ the gate electrode underlies a part of the data line, the source electrodes and a part of the drain electrode so that the “ \square ”-shaped channel is formed at parts of the source and drain electrodes facing the protrusion, the entirety of the protrusions of the source and drain electrodes is formed within the area of the semiconductor layer, and the protrusion of the source electrode is offset from the protrusion of the drain electrode.

2. (canceled)

3. (Original): The liquid crystal display device as claimed in claim 1, wherein the semiconductor layer includes:

an active layer on the gate insulating film; and

an ohmic contact layer on the active layer.

4. (Original): The liquid crystal display device as claimed in claim 3, wherein the ohmic contact layer includes an “ \square ”-shaped opening that corresponds to the shape of the channel.

5. (Original): The liquid crystal display device as claimed in claim 3, wherein the active layer is undoped silicon.
6. (Original): The liquid crystal display device as claimed in claim 3, wherein the ohmic contact layer is doped silicon.
7. (Original): The liquid crystal display device as claimed in claim 2, wherein the channel has a width greater than 50 μm .
8. (Canceled)
9. (Original): The liquid crystal display device as claimed in claim 1, wherein the pixel electrode contacts the drain electrode through an opening in the protective layer.
10. (Original): The liquid crystal display device as claimed in claim 1, further including a data line in electrical communication with the source electrode.
11. (Currently Amended): A method of fabricating a liquid crystal display device, comprising:
forming a gate electrode on a substrate;
forming a gate insulating film on the substrate and over the gate electrode;
forming a semiconductor layer on the gate insulating film and over the gate electrode
wherein the semiconductor layer forms a “ \square ”-shaped channel;
forming a source electrode ~~two source electrodes~~ and drain electrode on the semiconductor layer, wherein the source and drain electrodes oppose each other and each includes at least one protrusion that extends toward the opposing electrode, and the protrusion of the source electrode extends directly from a data line ~~the source electrodes are protruded directly from a data line~~;
forming a protective layer over the source and drain electrodes and over a portion of the gate insulating film; and
forming a pixel electrode on the protective layer; wherein an entire area of the “ \square ”-shaped channel is formed over the gate electrode, ~~[[and]]~~ the gate electrode underlies a part of the data line, the source electrodes and a part of the drain electrode so that the “ \square ”-shaped channel is

formed at parts of the source and drain electrodes facing the protrusion, the entirety of the protrusions of the source and drain electrodes is formed within the area of the semiconductor layer, and the protrusion of the source electrode is offset from the protrusion of the drain electrode.

12. (Canceled)

13. (Original): The method as claimed in claim 11, wherein forming a semiconductor layer includes:

- forming an active layer on the gate insulating film; and
- forming an ohmic contact layer formed on the active layer.

14. (Original): The method as claimed in claim 12, wherein forming an ohmic contact layer produces a “E”-shaped opening that corresponds to the shape of the channel.

15. (Original): The method as claimed in claim 13, wherein the active layer is formed from undoped silicon.

16. (Original): The method as claimed in claim 13, wherein the ohmic contact layer is formed from doped silicon.

17. (Original): The method as claimed in claim 12, wherein the channel is formed with a length greater than 50 μm .

18. (Original): The method as claimed in claim 12, wherein the channel is formed only over the gate electrode.

19. (Original): The method as claimed in claim 11, wherein forming a protective layer includes forming an opening that exposes the drain electrode.

20. (Original): The method as claimed in claim 19, wherein forming a pixel electrode include forming the pixel electrode in electrical communication with the drain electrode.

21. (Withdrawn): A liquid crystal display device, comprising:

- a gate electrode on a substrate;
 - a gate insulating film on the substrate and over the gate electrode;
 - a source electrode and a drain electrode on the semiconductor layer, the source electrode and the drain electrode each including at least one protrusion that extends toward the other of the source and drain electrode, wherein a separation gap between the source and drain electrodes is a “E”-shape, wherein the entire area of the separation gap is over the gate electrode to provide a “E”-shaped channel having a substantially constant horizontal and vertical width;
 - a semiconductor layer on the gate insulating film and over the gate electrode
 - a protective layer on the gate insulating film and over the source and drain electrodes;
- and
- a pixel electrode on the protective layer.

22. (Withdrawn): A method of fabricating a liquid crystal display device, comprising:

- forming a gate electrode on a substrate;
- forming a gate insulating film on the substrate and over the gate electrode;
- forming a source electrode and a drain electrode on the semiconductor layer, the source electrode and the drain electrode each including at least one protrusion that extends toward the other of the source and drain electrode, wherein a separation gap between the source and drain electrodes is a “E”-shape, wherein the entire area of the separation gap is over the gate electrode to provide a “E”-shaped channel having a substantially constant horizontal and vertical width;
- forming a semiconductor layer on the gate insulating film and over the gate electrode
- forming a protective layer on the gate insulating film and over the source and drain electrodes; and
- forming a pixel electrode on the protective layer.

23. (Currently Amended): A liquid crystal display device, comprising:

- a gate electrode on a substrate;
- a gate insulating film on the substrate and over the gate electrode;
- a semiconductor layer on the gate insulating film and over the gate electrode;

a source electrode and a drain electrode on the semiconductor layer and adjacent the gate electrode, wherein the source electrode and the drain electrode oppose each other, each of the source electrode and drain electrode including and each includes at least one protrusion that extends toward the opposing electrode, and the protrusion of the source electrode is offset from the protrusion of the drain electrode;

a protective layer on the gate insulating film and over the source and drain electrodes;
and

a pixel electrode on the protective layer; wherein the entirety of the protrusions of the source and drain electrodes is ~~[[are]]~~ formed within the area of the semiconductor layer.

24. (New): A liquid crystal display device, comprising:

a gate electrode on a substrate;

a gate insulating film on the substrate and over the gate electrode;

a semiconductor layer on the gate insulating film and over the gate electrode;

a source electrode and a drain electrode on the semiconductor layer and adjacent the gate electrode, wherein the source electrode and the drain electrode oppose each other and each includes a plurality of protrusions that extend toward the opposing electrode;

a protective layer on the gate insulating film and over the source and drain electrodes;

and

a pixel electrode on the protective layer; wherein the entirety of the protrusions of the source and drain electrodes is formed within the area of the semiconductor layer.